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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,611	07/03/2003	Ronald G. Hart	6270/109	6801
757	7590	10/01/2004	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610				WACHSMAN, HAL D
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,611	HART, RONALD G.	
	Examiner Hal D Wachsman	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 July 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-24 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 08 December 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7-3-03,9-11-03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

1. The Preliminary Amendment filed 12-8-03 is improper under 37 C.F.R. 1.121 because each section of the amendment does not begin on a separate page (page 2 has both the IN THE FIGURES section and the IN THE SPECIFICATIONS section) and the replacement figures for Figures 1-30b are not identified in the top margin as "Replacement Sheet". In addition, the added new figures 31a-46i are not identified in the top margin as "New Sheet" and there is no explanation of any changes that may have been made in either the IN THE FIGURES section or in the REMARKS section. Appropriate correction is required.

2. The next to last sentence of the Abstract starts with "Wherein each device..." and the last sentence of the Abstract starts with "Whereby one of the devices....". It appears though that both that both of these sentences are part of the sentence "Each of the ports is operative...". Appropriate correction is required.

3. The Related Applications section on page 1 of the specification does not provide the current status of U.S. application serial no. 10/068,431 (i.e. is now U.S. patent no. 6,694,270). In addition, this section indicates that U.S. application serial no. 08/798,923 (08/798,723) incorporated by reference 08/798,724, however this is an improper incorporation by reference because essential material may not be incorporated by reference to a U.S. patent or application which itself incorporates essential material. Also, line 7, of this paragraph 0001, refers to "08/798,923" but was it actually "08/798,723" that was intended here ? Appropriate correction is required.

4. On page 13, paragraph 0076, "FDDI" has not been defined. Appropriate correction is required.

5. The listing of references in the specification (see pages 18, 19, 22, 26, of the specification) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

6. The tables on pages 27-54, 56-74 and 77, are objected to under 37 C.F.R. 1.52 because the lettering is of insufficient size. Appropriate correction is required.

7. The drawings are objected to because they are improper under 37 C.F.R. 1.121 as described in paragraph 1 above. In addition, page 7, paragraph 0059, of the specification states "Referring to FIG. 1, there is illustrated a diagram of an electricity distribution system 10. The electricity distribution system 10 represents a **typical** distribution system...". Consequently, as it is clear that this was known in the prior art, Figure 1 needs to be labeled as "Prior Art" with this change also reflected in the description for Figure 1 in the Brief Description of the Drawings. Appropriate correction is required.

8. The specification is objected to because it does not define RTS level, CTS level and RTS delay. Appropriate correction is required.

9. Claims 1-20 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claim 1, line 15, cites "each of said communication ports" which it appears

should be "each communication port of said plurality of communication ports". This same type of problem also occurs in claim 9, lines 1, 3 and 5, and claim 18, line 1. Claim 1, lines 4-5, cite "first and second devices coupled with said digital network... each comprising:" in which the use of the colon after the word "comprising" would appear to indicate that everything that follows is in the first and second devices. However, as this claim is written after the "and" in line 14, there is ambiguity with respect to whether "a plurality of communication ports....wherein said first device...with said second device over said digital network" is separate from the first and second devices or not. Claim 1, lines 17 and 19-20, cite "said communication ports" however the antecedent basis is "plurality of communication ports". The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1, 3, 4, 6, 9-21 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by McRae (5,859,596).

As per claim 1, McRae (see at least abstract) discloses the digital network. McRae (Abstract, col. 3 lines 50-57) discloses the first and second devices as described in lines 4-5 of the claim. McRae (col. 3 lines 50-60, col. 5 line 24) discloses the at least one sensor as described in lines 6-8 of the claim. McRae (col. 5 lines 24-26) discloses the at least one analog to digital converter as described in lines 9-11 of the claim. McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses the first processor as described in lines 12-14 of the claim. McRae (Abstract, figures 2-4) discloses the plurality of communications ports as described in lines 15-20 of the claim as well as the first device communicating with at least the second device over the digital network.

As per claim 3, McRae (see at least abstract) discloses the feature of this claim.

As per claim 4, McRae (Abstract, col. 3 lines 64-67) discloses the feature of this claim.

As per claim 6, McRae (Abstract, figure 3) discloses the feature of this claim.

As per claim 9, McRae (col. 7 lines 19-67, col. 8 lines 1-6) discloses the features of this claim.

As per claim 10, it is inherent in the art that baud rate is a reference to the speed at which a modem can transmit data and applicable in McRae (column 4 lines 57, 58 for example) which uses a dial-up modem connection as well as the RS-232 links (see at least figure 3 in McRae).

As per claim 11, McRae (Abstract, Figure 3, col. 7 lines 32-39) discloses the feature of this claim.

As per claim 12, McRae (Abstract, figure 3) discloses the features of this claim.

As per claims 13 and 15, it is inherent in the art that RTS is an abbreviation for Request To Send, a signal used in serial communications sent as from a computer to its modem, to request permission to transmit.

As per claim 14, it is inherent in the art that CTS is an abbreviation for Clear To Send, a signal used in serial communications sent as from a modem to its computer, to indicate that transmission can proceed.

As per claim 16, it is inherent in the art that because of any time in waiting for the CTS signal, there would be a delay in transmission from the computer.

As per claim 17, McRae (col. 7 lines 66, 67, col. 8 line 7) discloses the feature of this claim.

As per claim 18, McRae (see at least abstract) discloses the feature of this claim.

As per claims 19 and 20, McRae (Abstract, figures 3, 4) discloses the features of each of these claims.

As per claim 21, McRae (col. 3 lines 50-60, col. 5 line 24) discloses the sensing step. McRae (col. 5 lines 24-26) discloses the converting step. McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses the generating step. McRae (Abstract, figures 2-4) discloses the receiving and engaging steps.

As per claim 24, McRae (see at least abstract) discloses the digital network. McRae (Abstract, col. 3 lines 50-57) discloses the first and second devices as described in lines 4-5 of the claim. McRae (col. 3 lines 50-60, col. 5 line 24) discloses the sensing means. McRae (col. 5 lines 24-26) discloses the converting means. McRae (Abstract, col. 5 lines 20-27, col. 11 lines 57-61) discloses the processing means. McRae (Abstract, figures 2-4) discloses the communicating means as well as the first device communicating with at least the second device over the digital network.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description.

As per claim 2, Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description (System Overview, Analog Input, Clock outputs, figure 2) discloses the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description to the invention of McRae as specified above because as taught by Macrodyne Inc. Model 1690 Phasor Measurement Unit, Product Description (page 2 – System Overview) because the sampling time is precisely known (to better than a microsecond), data from units installed throughout a utility power network can be directly compared therefore instantaneous power can be measured in real-time.

14. Claims 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of the Applicant's Admissions of the prior art.

As per claim 5, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the

invention of McRae as specified above because Ethernet is one industry standard communications port just as is the RS-232 that is being used in McRae.

As per claim 7, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082, of the specification) teaches the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the invention of McRae as specified above because RS485 is one industry standard communications port just as is the RS-232 that is being used in McRae and was well known in the art for interfacing multiple devices to a shared bus.

As per claim 8, McRae (Abstract, figure 3) discloses the RS232 port. It appears though that McRae does not clearly disclose the Ethernet port. However, the Applicant's Admissions of the prior art (page 14, paragraphs 0080, 0082 of the specification) teaches this excepted feature. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of the Applicant's Admissions of the prior art to the invention of McRae as specified above because Ethernet is one industry standard communications port just as is the RS-232 that is being used in McRae.

15. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McRae (5,859,596) in view of Burnett, Jr. et al. (Power System Applications for Phasor Measurement Units).

As per claims 22 and 23, Burnett, Jr. et al. (Power System Applications for Phasor Measurement Units, page 9) teaches that there was increasing interest in

synchronized phasor measurement units and how they may be used for various power system applications and that the development of new types of computer-based hardware and the completion of the Global Positioning System of satellites provide the components needed for true synchronized PMU monitoring systems. This page also teaches that synchronized sampling, derived from the GPS, and high accuracy sigma-delta analog-to-digital converters form the basis for a system that can measure the state of the power system at a given instant over any area. Consequently, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Burnett, Jr. et al. to the invention of McRae and send/receive time synchronization requests between the devices because as taught by Burnett et al. (page 11) multiple synchronized PMUs capturing the same event can easily provide the necessary time synchronized data to study wide area effects of system damping and oscillations.

16. The following references are cited as being art of general interest: Pyle et al. (5,831,428) which disclose communications between a metering unit and a control station in which the communication baud rate is entered via a display, Salas et al. (5,862,391) which disclose a power management control system and Davis et al. (5,754,764) which disclose the use of an Ethernet Controller.

17. No claims are allowed.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 571-272-

2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hal D Wachsmann
Primary Examiner
Art Unit 2857

HW
September 29, 2004